

Amendments to the Drawings:

The attached sheet of drawings including Figure 1 replaces the original sheet of drawings including Figure 1. No new matter has been added to Figure 1 as support is found throughout the specification and claims.

REMARKS

Claims 23-45 are pending in the subject Application. Claims 1-22 were previously canceled. Claims 23 and 35 have been amended. In view of the foregoing Amendments and the following Remarks, it is respectfully submitted that claims 23-45 are allowable, and prompt entry to this effect is respectfully requested.

I. Objections to the Drawings

The Examiner has objected to the drawings for failing to show alphanumeric characters, as is recited in Claims 25 and 37, for example. In accordance with 37 C.F.R. § 1.84, Applicant submits herewith a replacement sheet of drawings for Figure 1, wherein Figure 1 now includes alphanumeric characters at the reflection points on the measured curve expressed in Figure 1.

Applicant respectfully submits that the addition of alphanumeric characters to Figure 1 does not constitute new matter. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this objection and entry of the attached replacement sheet.

II. Claim Rejections

A. Section 102(e) -- Buschke

Claims 23-24, 27-32 and 39-43 are rejected under 35 U.S.C. § 102(e) as being anticipated by United States Patent Publication No. 2006-0109002 A1 to Buschke *et al.* (“Buschke”). Applicant respectfully traverses this rejection for at least the following reasons.

Buschke describes a device for assisting the operator in achieving a good quality A-scan by providing a display in the form of a bar. *See* Buschke, ¶ 0016. The device includes a probe applied to a workpiece and connected to both a transmitter and a receiver, and includes an A-scan monitor and bar display. *See* Buschke, ¶ 0030.

A critical distinction between the device described in Buschke and the invention recited in Claims 23 and 35, as amended, is that an operator of the Buschke device is required to look at separate screens -- the A-scan and the bar display -- in order to conduct the necessary testing. *See, e.g.*, Buschke, ¶¶ 0012, 0019. Conversely, in the invention recited in Claims 23 and 35, all information regarding the source of the echo signal is integrated directly into the single A-scan display, and an operator need not watch and compare signals from two different displays. *See*

Application, ¶ 0013. Simply by viewing the A-scan monitor, an operator of the invention recited in Claims 23 and 35 immediately knows the distance between the origin of the signal, any defect, and the angle beam probe. *See Application, ¶¶ 0016, 0022.* Therefore, for at least this reason, Buschke does not anticipate Claims 23 and 35 as currently amended.

Additionally, Buschke does not teach the identification of a particular leg from which an echo signal originates. In fact, Buschke expressly teaches that “[e]valuation of the signal sequence of the A-scan does not pertain to the present invention,” which is directed at providing a display in the form of a bar. *See Buschke, ¶ 0016.* Buschke does not define a “leg,” as that term is defined in the subject Application, *see Application, ¶ 0007* (“leg” defined as “[t]he discrete back and forth movement[], meaning the distance the sound travels from the entrance surface to the rear wall and back”), and does not teach the significance of, or make any reference to, the identification of particular legs on the A-scan display, as is recited in Claims 23 and 35. Therefore, for at least this reason, Buschke does not anticipate Claims 23 and 35.

Buschke also does not describe the delivery of ultrasonic pulses into a test body at a certain angle α . Therefore, the device in Buschke cannot describe a probe that “delivers ultrasonic pulses and insonifies them at a certain angle (α) into a test body where the test pulses are at least once reflected from a rear wall of the test body,” forming first and second legs extending between the entrance surface and the rear wall, as is recited in Claims 23 and 35, as amended. Therefore, for at least this reason, Buschke does not anticipate Claims 23 and 35.

The Examiner claims that paragraph [0030] of Buschke describes the display of echo signals received, so as to show from which leg the echo signals originate. *See Office Action, at 3-4.* However, Applicant respectfully represents that the Examiner has misinterpreted this paragraph and the teachings of Buschke in this regard. Paragraph [0030] states that a fraction of each pulse is generally reflected at the entrance surface, and reaches as an entrance echo the receiver in time before other signals. This paragraph, however, does not describe how an A-Scan display can represent from which leg a particular echo signal originates. As is set forth above, according to the present invention, a “leg” is defined as “[t]he discrete back and forth movement[], meaning the distance the sound travels from the entrance surface to the rear wall and back.” *See Application, ¶ 0007.* In Buschke, however, entrance echoes are “generally reflected at the entrance surface,” and not at the rear wall. *See Buschke, ¶ 0030.* Accordingly, paragraph [0030] of Buschke does not describe echo signals originating from the “legs” of the

present invention, as is recited in Claims 23 and 35 and, as such, Buschke cannot anticipate the claimed invention for at least this reason.

It is well known that Anticipation under 35 U.S.C. 102(e) requires that “each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *See, e.g., Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). As is set forth above, Buschke does not teach or enable each and every element of the invention as recited in Claims 23 and 35, as amended, and for at least this reason it is believed that these claims are allowable. Furthermore, Claims 24, 27-32 and 39- 43, each of which depends directly or indirectly from either of these claims, are also patentable over Buschke. Accordingly, the Applicant respectfully submits that Claims 23, 24, 27-32 and 39-43 are allowable, and prompt entry to this effect is respectfully requested.

B. Section 102(e) -- Berke

Claims 23, 24, 35, 36 and 44 are rejected under 35 U.S.C. § 102(e) as being anticipated by United States Patent No. 7,240,554 B2 to Berke (“Berke”). Applicant respectfully traverses this rejection for at least the following reasons.

Like Buschke, Berke does not describe the claimed invention. To the contrary, Berke describes a “method for detecting the size of cracks, more specifically for detecting the depth of a crack, that directly yields a value without major computation, that is, that quickly determines an initial value and is suited for an automatic method.” Berke, col. 1, ll. 58-63. Berke is expressly limited, however, to determining the size or depths of cracks, and provides no other information regarding cracks. *See, e.g., Berke, Abstract; col. 1, ll. 05-07* (“[t]he invention relates to a method for sizing a crack in a workpiece using the ultrasonic pulse-echo method and to a device for carrying out this method”)(emphasis added); col. 2, ll. 06-16; col. 3, ll. 01-24. Berke does not teach or enable any apparatus or method directed to the use of the A-scan to determine additional information about the source of the echo signal. Therefore, for at least this reason, Berke does not anticipate Claims 23 and 35 as currently amended.

Furthermore, Berke does not teach or suggest determining the legs from which an echo signal is received, as those signals are displayed within an A-scan. Like Buschke, Berke does not define a “leg,” as that term is defined in the subject Application, *see Application, ¶ 0007* (“leg” defined as “[t]he discrete back and forth movement[], meaning the distance the sound travels from the entrance surface to the rear wall and back”), and also does not teach or suggest

the significance of, or make any reference to, the identification of particular legs from which echo signals originate on the A-scan display, as is recited in amended Claims 23 and 25. Therefore, for at least this reason, Berke does not anticipate Claims 23 and 35 as currently amended.

As is set forth above, anticipation under 35 U.S.C. 102(e) requires that "each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *See, e.g., Verdegaal Bros.*, 814 F.2d at 631. Because Berke does not teach, describe or suggest the invention recited in Claim 23 and 35, as amended, it is believed that these claims are allowable. Therefore, Claims 24, 36 and 44, each of which depends either directly or indirectly from either of these claims, are also patentable over Berke. Accordingly, the Applicant respectfully submits that Claims 23, 24, 35, 36 and 44 are presently allowable, and prompt entry to this effect is respectfully requested.

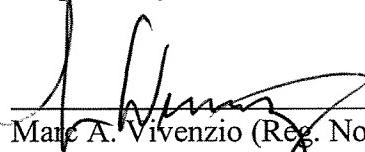
III. Conclusion

For at least the reasons set forth above, Applicant submits that Claims 23, 24, 27 through 32 and 39 through 43 are patentably distinct over Buschke, and that Claims 23, 24, 35, 36 and 44 are patentably distinct over Berke. Therefore applicants submit that all of claims 23-45 are allowable over the prior art of record. Reconsideration and prompt allowance of the rejections of these claims is respectfully requested. If the Examiner believes that a telephone conversation may be useful in advancing prosecution of the Application, the Examiner is invited to contact the Applicant's undersigned counsel, at the telephone number listed below.

In the event of any fee deficiency, authorization is hereby given to charge any required fee(s) to Deposit Account No. 50-3569.

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Respectfully submitted



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